

RESPONSE UNDER 37 C.F.R. § 1.116  
EXPEDITED PROCEDURE  
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### **REMARKS/ARGUMENTS**

Claims 1 - 7, 10 - 45, and 48 - 54 are pending in the present application. By this amendment, Claims 1, 17, 19 - 20, 22 - 24, 26 - 28, 30 - 35, and 37 have been amended, Claims 8, 9, and 47 have been canceled, and new Claims 55 - 63 have been added. Applicants respectfully request reconsideration of the present claims in view of the foregoing amendments and following remarks.

#### **I. Formal Matters:**

##### **Telephone Interview**

Applicants wish to thank Examiner Grayson and Examiner Calvert for the courtesies extended to Applicants during an April 9, 2003 telephone interview with Applicants' representative and one of the inventors. During the interview, questions regarding the Final Office Action were answered and differences regarding the present invention and the prior art of record were discussed.

##### **Allowable Subject Matter**

Applicants wish to thank Examiner Grayson for indicating that Claims 14 - 15 and 53 - 54 would be allowable if rewritten in independent form. As Claim 14 was rejected and as Claim 16 corresponds to Claim 54, it is presumed that Claims 15 - 16 and 53 - 54 should have been indicated as allowable and Applicants have acted accordingly. Applicants have already rewritten Claims 15 - 16 and 53 - 54 in independent form in the response filed on December 16, 2002. Accordingly, it is respectfully submitted that these claims are now allowable.

#### **II. Prior Art Rejections:**

##### **Rejections under 35 U.S.C. § 102(b)**

Claims 1 - 3, 6 and 8 - 13 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,901,236 to Assarsson et al. (hereafter referred to as the "Assarsson et al. reference"). This rejection is respectfully traversed.

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Claim 1 of the present invention is directed to, *inter alia*, a web comprising superabsorbent material and fibers wherein at least some of the fibers are coated onto the superabsorbent material prior to formation of the web, the web is formed while the superabsorbent material contains a liquid that it has absorbed, and at least some of the liquid absorbed in the superabsorbent material is removed after formation of the web and wherein the web comprises a superabsorbent material content of at least about 60% by dry weight and the web experiences a web loss of less than about 9% when subjected to the Shakeout Test as set forth in the specification. Claim 17 of the present invention is directed to, *inter alia*, a web comprising fibers and superabsorbent material having a superabsorbent material content of at least about 60% by dry weight and the web experiences a web loss of less than about 9 % when subjected to the Shakeout Test as set forth in the specification. Claim 28 is directed to, *inter alia*, a web comprising fibers and superabsorbent material, wherein the web comprises a superabsorbent material content of at least about 90% by dry weight and the web experiences a web loss of less than about 58% when subjected to the Shakeout Test as set forth in the specification. Claim 35 is directed to, *inter alia*, a web comprising fibers and superabsorbent material wherein the web loss experienced by the web when subjected to the Shakeout Test as set forth in the specification is not a monotone nondecreasing function of the concentration of superabsorbent material in the web. Claim 37 is directed to, *inter alia*, a web comprising fibers and superabsorbent material wherein the web loss experienced by the web when subjected to the Shakeout Test as set forth in the specification is a monotone nonincreasing function of the concentration of superabsorbent material in the web. Claim 39 is directed to, *inter alia*, a web comprising fibers and at least one superabsorbent material at least partially coated with the fibers, wherein individual bodies of the superabsorbent material have bonds with each other, with fibers that are coated upon other bodies of the superabsorbent material, or with a combination thereof, and the superabsorbent material comprises a composition that forms such bonds upon removal of a liquid contained in the superabsorbent material.

The Assarsson et al. reference is directed to hydrogel particles that are coated with fibers to form extremely small fiber coated hydrogel composites or particles. These fiber coated hydrogel particles are small and designed to be able to pass through a 5 mesh screen (Col. 5, lines 1 to 7). This indicates that the fiber coated hydrogel composites of the Assarsson et al. references are all less than equal to 4 mm in size. The fiber coated hydrogel particles are used with fibers in the formation of a fibrous or cellular matrix for use in disposable personal care articles.

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It is respectfully submitted that the Assarsson et al. reference fails to teach or suggest Applicants' claimed invention. The Assarsson et al. reference fails to teach or suggest Applicants' claimed invention as the fiber coated hydrogel particles are coated and then dried *before* they are used. The disposable absorbent articles of the Assarsson et al. reference rely upon mechanical entanglement of the fiber coated hydrogel particles to anchor the fiber coated hydrogel particles in a fibrous or cellular matrix (see Abstract). As set forth in Columns 8 and 9, in all the processes used to form the fiber coated hydrogel particles, the fiber coated hydrogel particles were dried *before* formation of the fibrous or cellular matrix used to form the composites of disposable absorbent article, as shown at column 8 wherein the composites are passed through a 10 mesh screen before being formed into a fibrous or cellular matrix (Col. 8, lines 66 to 68).

As Applicants specifically claim that the webs are formed and then dried, the Assarsson et al. reference fails to teach or suggest Applicants' claimed invention. By drying after web formation, the web of the present invention has improved web integrity due to extra bonding, such as hydrogen bond formation in addition to mechanical entanglement of the fiber coated hydrogel particles. Thus, Applicants achieve the desired shake-out properties. In the present invention, the improved integrity reflected by the improved Shakeout results show that the formed web of the present invention has different characteristics than the fibrous or cellular matrix formed in the Assarsson et al. reference. As seen in the Assarsson et al. reference, it would not have been obvious to one skilled in the art to form a fibrous or cellular matrix incorporating superabsorbent material having a liquid content level of the present invention due to manufacturing process concerns. The differences as seen in the webs of the present invention and the fibrous or cellular matrix of the Assarsson et al. reference may be the result of bonds, such as hydrogen bonding, between the fibers, the superabsorbent material, and the fibers and superabsorbent material as well as mechanical entanglement of the fibers and superabsorbent material in the webs of the present invention. As shown in Comparative Example 2 and Table 3 of Applicants' specification, webs formed with dried particles have much less desirable shake-out properties. Table 3 shows that for the present invention, the webs have a superabsorbent material content of at least about 60% by dry weight and the webs experience a web loss of less than about 9% when subjected to the Shakeout Test as set forth in the specification.

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However, for fibrous or cellular matrix made according to the Assarsson et al. reference (Comparative Example 2), the matrix experience much higher losses of superabsorbent material, especially as the amount of superabsorbent material in the matrix is increased. Thus the fibrous or cellular matrix as taught by the Assarsson et al. reference is not the web as taught in the present invention. This may be caused by the fact that the Assarsson et al. reference dries their fiber coated hydrogel particles first (see, Col. 8 lines 66 to 68) such that any resultant matrix would have undesirable shake-out properties. Accordingly, the Assarsson et al. reference teaches away from Applicants' claimed invention of not drying the superabsorbent material until after the web is formed, especially since the fiber coated hydrogel particles of the Assarsson et al. reference are simply placed into a matrix (Col. 7, lines 36 to 41) which is what occurred in Comparative Example 2 (Page 23, lines 30 to 31). Accordingly, it is respectfully submitted that the Assarsson et al. reference fails to teach or suggest Applicants' claimed invention.

For at least the reasons given above, Applicants respectfully submit that Claim 1 is allowable over the art of record. Claims 8 and 9 have been canceled. Furthermore, since Claims 2 - 3, 6, and 10 - 13 recite additional claim features and depend from Claim 1, these claims are also allowable over the art of record. Accordingly, Applicants respectfully request withdrawal of this rejection.

Claims 17 - 52 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,516,569 to Veith et al. (hereafter referred to as the "Veith et al. reference"). This rejection is respectfully traversed.

Applicants' invention may be relied upon as discussed above.

The Veith et al. reference is directed to absorbent composites including a web having a fibrous material and a particulate superabsorbent material.

It is respectfully submitted that the Veith et al. reference fails to teach or suggest Applicants' claimed invention. The Examiner relies upon a shake-out test provided in the Veith et al. reference to state that the Veith et al. reference allegedly teaches Applicants' claimed invention. However,

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Applicants have defined their Shakeout test as set forth in the Examples and this Shakeout test is not the same as the test the Veith et al. reference applied. As such, the shake-out values disclosed in the Veith et al. reference are not commensurate in scope with Applicants' claimed invention. In the Veith et al. reference, the samples are prepared such that if a tissue was used to form a sample, the tissue remains during the shake-out test and the sample is placed between the spunbond and the blotter layer. See, e.g. Col. 13, lines 7 to 10 wherein, prior to shaking, the superabsorbent material is completely surrounded by tissue. However, as set forth in Applicants' Shakeout test, if a tissue was used in making the composite, then the tissue is removed prior to running the test (Page 18, lines 27 to 29). As such, in the Veith et al. reference, the tissue acts to hold a greater amount of superabsorbent particles in place such that a lower shake-out results than if the tissue had been removed.

The tissue is needed in the Veith et al. reference because the tissue is the main reason the superabsorbent does not shake-out since the superabsorbent particles are not attached within the web in the manner that Applicants' claimed superabsorbent particles are attached. By forming the web and then drying, the superabsorbent particles are better attached in Applicants' claimed invention and the tissue is not needed to reduce shake-out. As such, since the Veith et al. reference uses a different test for shake-out and since the Veith et al. reference fails to teach drying of the web after formation of the web, the Veith et al. reference fails to recognize, teach or suggest the advantages of drying the web after formation to reduce the shake-out of the superabsorbent without the need for a tissue. As such, it is respectfully submitted that the Veith et al. reference fails to teach or suggest Applicants' claimed invention.

Additionally, in regards to Claim 35, the examples in the Veith et al. reference show that as the amount of superabsorbent is increased, the level of shake-out also increases. This would be expected, especially since the Veith et al. reference attempts to minimize shake-out through use of the tissue, as described above, and not by forming a web and then drying, such that the superabsorbent is better connected to the web. However, as claimed in Claim 35, the amount of shake-out generally decreases as the amount of superabsorbent increases, and this aspect is not recognized, taught or suggested by the Veith et al. reference. Accordingly, it is respectfully submitted that the Veith et al. reference fails to teach or suggest Applicants' claimed invention.

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Finally, in the Veith et al. reference, the amount of water located in the composite is much lower than in Applicants' claimed invention. In the Veith et al. reference, the maximum amount of water would be a composite having no fiber such that the composite would have 70% superabsorbent and 30% water, or a 0.43 g water/g superabsorbent. As previously amended, Claim 39 requires at least 0.5 g water/g superabsorbent. Therefore, the Veith et al. reference also fails to teach or suggest this aspect of Applicants' claimed invention. As such, it is respectfully submitted that Veith fails to teach or suggest Applicants' claimed invention.

For at least the reasons given above, Applicants respectfully submit that Claims 17, 20, 24, 28, 35, 37 and 39 are allowable over the art of record. Furthermore, since Claims 18 - 19, 21 - 23, 25 - 27, 29 - 34, 36, 38, 40 - 45, and 47 - 52 recite additional claim features and depend from one of Claims 17, 20, 24, 28, 35, 37 and 39, these claims are also allowable over the art of record. Accordingly, Applicants respectfully request withdrawal of this rejection.

Rejections under 35 U.S.C. § 103(a)

Claims 4 - 5 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Assarsson et al. reference in view of U.S. Patent No. 4,354,487 to Oczkowski (hereafter referred to as the "Oczkowski reference"). This rejection is respectfully traversed.

Applicants' invention may be relied upon as discussed above.

Applicants' discussion of the Assarsson et al. reference may be relied upon as discussed above. The Oczkowski reference is directed to drying methods.

It is respectfully submitted that the combination of the Assarsson et al. and Oczkowski references fails to teach or suggest Applicants' claimed invention. As previously set forth, the Assarsson et al. reference fails to teach or suggest the formation of webs while the superabsorbent material contains a liquid that it has absorbed such that beneficial shake-out values are obtained with the resultant webs as set forth in the present invention. It is respectfully submitted that the Oczkowski reference fails to remedy these deficiencies as the Oczkowski reference has no teaching at all to form webs and to dry a superabsorbent material after forming into the web, not before. As such, it is respectfully submitted that the combination of the Assarsson et al. and Oczkowski references fail to teach or suggest Applicants' claimed invention.

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For at least the reasons given above, Applicants respectfully submit that Claim 1 is allowable over the art of record. Furthermore, since Claims 4-5 and 7 recite additional claim features and depend from Claim 1, these claims are also allowable over the art of record. Accordingly, Applicants respectfully request withdrawal of this rejection.

**III. Conclusion:**

For at least the reasons given above, Applicants respectfully submit that Claims 1 - 7, 10 - 45, and 47 - 63 define patentable subject matter. Accordingly, Applicants respectfully request allowance of these claims.

The foregoing is submitted as a full and complete Response to the Final Office Action mailed February 25, 2003, and early and favorable consideration of the claims is requested.

Should the Examiner believe that anything further is necessary in order to place the application in better condition for allowance, the Examiner is respectfully requested to contact Applicants' representative at the telephone number listed below.

Please charge any prosecutorial fees which are due to Kimberly-Clark Worldwide, Inc. deposit account number 11-0875.

The undersigned may be reached at: (920) 721-7671.

Respectfully submitted,  
JASPREET SINGH ET AL.

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**CERTIFICATE OF FACSIMILE TRANSMISSION**

I, Judy Garot, hereby certify that on April 20, 2004 this document is being deposited with the United States Postal Service via facsimile number (703) 872-9306 to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

By:

  
Judy Garot